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THE EMPLOYMENT OF OLEATE OF VERATRIA TO FACILITATE THE DETERMINATION OF ERRORS OF REFRACTION.[1]

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If the use of a mydriatic eliminated all the difficulties and uncertainties which frequently attend the determination of the more complicated forms of ametropia, we would unquestionably be justified in paralyzing the accommodation in every such case, notwithstanding the temporary inconvenience which the patient experiences from this procedure; but, I apprehend, few persons of considerable experience will claim that it really does this. In simple H it enables us, as a rule, without much difficulty to determine the total error of refraction, and in simple M, by eliminating ciliary spasm, it usually gives us a much more trustworthy result than can be otherwise obtained; but in the measurement of astigmatism, the help which we derive from the employment of a mydriatic is, unfortunately,

[1] A paper read before the American Ophthalmological Society July 18, 1889.

by no means so efficient. The total refraction error of the eye, apart from the astigmatism, can undoubtedly be more exactly determined, but the actual amount of astigmatism, in many cases, is as difficult, or as impossible, of ascertainment with the eye under the influence of a mydriatic as with the accommodation in its ordinary state of activity. In a word, *while symmetrical ciliary spasm is usually suppressed and latent hypermetropia rendered manifest by the application of a mydriatic, asymmetrical ciliary spasm and latent astigmatism are but little, if at all, influenced by it.* Indeed, it has seemed to me not infrequently that *the capacity of the eye for what may be termed asymmetrical accommodation is actually greater when it is under the influence of a mydriatic than when it is not.* And this has disposed me to believe *that as in the iris, so in the ciliary muscle, only the circular fibres are paralyzed by the mydriatics that are commonly employed, while the radiating fibres which we may safely assume have most to do with asymmetrical accommodation, like the radiating fibres of the iris, are actually stimulated by them.* However this may be, there can be no doubt that in many cases the wearing of cylindrical glasses renders manifest, after a time, a great deal more astigmatism than can at first be discovered, even by the liberal use of a mydriatic. That the true direction of the meridians of greatest and least refraction can be more accurately ascertained with the accommodation paralyzed than without is, to say the least, problematical; while, on the other hand, it cannot be denied that a widely dilated pupil is an obstacle, and in some instances a serious obstacle, to the exact determination of the refractive condition of the eye as it exists in ordinary vision.

Influenced by these several considerations, I have found myself of late less frequently resorting to mydriatics in my refractive work—especially in the examination of astigmatism—than I previously did. My usual course of procedure is, first, to ascertain, as accurately as I can, the total ametropia by means of the ophthalmoscope; then to measure carefully, by the vertical diplopia test, the relative strength of the external and internal recti muscles at 13″ and at 20′; and, finally, to de-

termine the manifest error of refraction with glasses. If the knowledge of the true refractive state of the eye which I obtain with the ophthalmoscope is less exact than that which can be gained by the use of a mydriatic, it is, at least in many cases, sufficiently exact, when supplemented by the information derived from the muscle test and the trial with glasses, to indicate the character and strength of the spherical glass with which the cylinder should be combined; and this, I believe, is as much as, and sometimes more than, the mydriatic does for us. For example, if, in a case of compound hypermetropic astigmatism, we find, with the error of refraction uncorrected, 2° or 3° of insufficiency of the internal recti muscles at 20′ and 6° or 7° at 13″, it matters very little to us, in most cases, what the *total* hypermetropia may be, since the state of the muscular balance would contra-indicate the correction of any part of that which was latent. So, also, in astigmatism apparently mixed, the discovery of insufficiency of the external recti muscles of appreciable amount would lead us to suspect that the myopic element was not real, but the result of ciliary spasm, and having confirmed this by careful *binocular* testing, as we very often can, we should be kept from the error of prescribing, in such a case, a concave spherical or cylindrical glass, just as would have happened had we employed a mydriatic. Again, in compound myopic astigmatism, with the myopia at all considerable in degree, the absence of relative divergences at 13″ with the vertical diplopia test, would, in the first place, make us suspect that the real myopia was less than the apparent, and in the second place, would prevent our correcting, for near vision, as large a portion of the myopia as we otherwise would have done.

On the other hand, the cases in which it would be unwise to prescribe glasses without first using a mydriatic, are usually fairly well indicated by the tests which I have described. For example, if, in a case of compound hypermetropic astigmatism, in which there is but little manifest hypermetropia, we should find well-marked insufficiency of the external recti muscles at 20′, we would without hesitation resort to the use

of a mydriatic, because we should be warranted in suspecting the existence of a considerable amount of latent hypermetropia, and because, in order to restore the normal muscular balance, we should wish to neutralize a large part of this.

The great difficulty, however, which I experience in dealing with cases of astigmatism—and this difficulty is the same, as has been said, whether a mydriatic be employed or not—is in determining the exact strength of the *cylindrical* glass, not in deciding upon the spherical glass which is to be combined with it. Is the astigmatism discoverable in a given case the total astigmatism of the eye, or is it only that which is manifest, and is there an additional portion rendered latent through the action of the ciliary muscle? Or, on the other hand, is the apparent astigmatism greater (as sometimes happens) than the real? Shall I give the weakest of several cylinders, which according to the line and letter tests, seem to correct the astigmatism equally well, or shall I not? These are the questions that are constantly presenting themselves to my mind. And it is in the endeavor to solve these questions that I believe I have derived some help from the action which I find veratria exerts upon the accommodative apparatus of the eyes. I may add here, also, that my experience has led me to formulate a rule, which, though it is doubtless subject to many exceptions, has been of practical value to me in this same direction. It is as follows: In astigmatism *according to the rule*, we need correct only that which is readily made manifest, first, because in this form of ametropia latent astigmatism is less often met with; second, because, even if the whole defect be not fully rected, the asthenopic symptoms will probably be entirely relieved for an indefinite period; third, because the slightest over-correction of the astigmatism will certainly give rise to serious annoyance. On the other hand, in astigmatism *against the rule*, we are warranted in correcting fully every particle of the defect which we can render manifest, first, because here latent astigmatism is, perhaps, more commonly present than not; second, because unless the defect be fully corrected, the relief which the glasses afford will in all probability be of but short

duration; and, third, because a slight over-correction of the astigmatism is scarcely more likely to prove unacceptable to the eye than an appreciable under-correction.

For some time I have been in the habit of employing oleate of veratria as an application to the forehead and temples for the relief of asthenopia and the headaches which result from accommodative strain, and having found it efficacious in many cases, I was led to prescribe its use in astigmatism, especially, as a preliminary to testing for glasses. It is needless to say that its action is entirely unlike that of belladonna, and that it neither dilates the pupil nor paralyzes the accommodation. What it does appear to do, however, besides rendering the eyes less iritable and asthenopic, is to exert a quieting effect upon the ciliary muscle, influencing especially, it seems to me, the radiating fibres, and thus lessening the tendency to asymmetrical accommodation. It is true that not infrequently the influence which it exerts upon the muscle is inappreciable; but, as a rule, after several daily applications of the veratria the irritability of the muscle is found to be unmistakably lessened, and the determination of the refractive error is accomplished with greater ease to the patient, as well as to the examiner. All who have had experienee in testing cases of astigmatism know what an immense difference there is in the behavior of different eyes under examination. How in one eye the measurements are made with the greatest facility, and the selection of the proper cylinder is attended with no difficulty whatever; while, in another, the skill and patience of the examiner are exhausted in an effort to reach even an approximation to a definite conclusion. It would be too much to claim for the veratria that it makes the latter class like the former; but, its action will be understood at once when I say that the effect which it produces is, at least, an approach to this.

The veratria is most conveniently used in the form of an oleate, which I have always prescribed in the strength of 10%. It need be applied but once a day (in the morning, after washing, is the best time), and but a small quantity (as much as can be gotten upon the finger-tip by twice touching it to the mouth

of the tilted vial) should be rubbed upon the forehead and temples. It is necessary to caution patients to wash their hands after making the application, and to be careful not to transfer the veratria with their hands, handkerchief or towel from the forehead to the eyes, as it causes very persistent irritation if it finds its way into the conjunctival sac. It is also well in applying it to the temples not to put it near the outer angle of the lids, as it seems to spread over the skin, and may find its way in this manner into the eye. As a rule, the burning and tingling sensation which it produces upon the forehead and temples is not unpleasantly severe, but in some cases complaint is made of it. After its use has been continued for a while the skin becomes very much less sensitive to its action, and to increase the effect it may be necessary to rub the forehead with a rough towel before applying it. When time permits, the veratria should be applied every morning for three or four days before the test of the refraction is undertaken; and, after the glasses have been prescribed, its use from time to time will be found decidedly efficacious in relieving any lingering traces of asthenopia.

NEEDLESS AND ANNOYING RESTRAINTS IN EYE SURGERY.[1]

BY JULIAN J. CHISOLM, M. D.,

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The successful surgery of the day depends largely upon the care bestowed in the carrying out of details. Many things, little, in appearance, but really essential, make up the summary of successful treatment. While this applies to all surgery, it embraces eye surgery as well. The successes of to-day, which make operations upon the eye the most perfect of all surgical practice, are brought about by the great care bestowed in the preparations for the operation, the manual for its performance, and the after-treatment.

In eye surgery smooth operations cover at least 75 % towards successes, so that the bad results can be partly laid to traumatism or defective operative procedures. When an eye operation is well done the surgeon may confidently expect good results. To insure this there are certain points upon which all agree. *Cleanliness holds the first place.* Clean instruments, clean hands, clean dressings, clean surroundings, are all of paramount importance, and should be of universal adoption. To obtain the largest per cent of successes in eye surgery no one of these can be omitted. The necessity for asepsis and anti-sepsis are recognized and adopted more or less generally and thoroughly. Our instruments must be kept sharp, as well as clean, or they will not do the nice work required of them. Putting them in boiling water before as well as after operations ensures this

[1]Read in the Section of Ophthalmology of the American Medical Association, at its meeting in Newport, June 26, 1889.

cleanliness, and is a good precaution which many use. The mercurial and boric acid solutions I find detrimental to delicate instruments, and hence I do not immerse cataract knives in them. The same might be said of passing the blade of a knife rapidly across a flame. If left long enough to destroy bacteria the edge of the blade is very apt to suffer. Boiling water ensures all that is desired, with no risk to the instruments.

The washing of the eye with weak solution of mercury bi-chloride 1 to 4,000, or mercury biniodide 1 to 20,000, or boric acid 1 to 40 is in very general use for cleansing the conjunctival surfaces both before, during and after eye operations. Water which has been boiled is found quite as good as the medicated lotions. The eye operated upon is usually in an aseptic condition; and as we desire to keep it in the same, we do not wish to impregnate the newly made wound with offending material conveyed in the water used for cleansing purposes, hence the medicated liquids in which the sponges or wiping pledgets of cotton are kept immersed while the operation is going on. This seems to be the chief protection against infection. The momentary application of these lotions to the conjunctiva can be of little service in destroying bacteria. We all do it, some going so far as to wash the face, including the eyelids, with the lotion. It is a harmless procedure, and I believe as useless as it is innocent.

Some surgeons carry antiseptic precaution to an excessive and even annoying degree. They seem to be suffering from bacterial fright, and are suspicious of the most innocent organisms. To them it is as if everyman, woman and child met with on the streets of a crowded city are assassins bent on mischief, and hence enemies. All bacteria are treated as if malignant, and are to be killed in sponges or dressings at least by the long continued application of heat. Absorbent cotton used for dressings is baked at high temperatures for hours, and then kept in air-tight jars which have been equally sterilized by long exposure in hot ovens. This seems to me a useless caution from over zeal, the more especially when I see unwashed hands manipulate the excessively prepared dressings. That

bacteria exist and are omni-present no one now questions, but that they are always bent on mischief only the over-zealous believe. Experience proves this to be the case, as no better results are obtained in treatment by those who over-do in their excessive preparations for an operation.

Confinement to bed for eye operations is another practice often annoyingly pressed to the discomfort of the patient. The eye is an isolated organ not easily influenced by the movements of the body, and therefore to a great extent independent of them. To restrict the movements of the arms and legs, and even of the jaws because the eye has received a wound at the hands of a skillful surgeon, when such restraints are not practiced, should the eye have been accidentally wounded by some crude cutting material, is inconsistant to say the least of it. It is about as rational to stop the eye from moving because the arm is broken, as to restrain the legs because the eye is cut. The confinement exacted by some surgeons, with patients who have submitted to eye operations at their hands is cruel, the more especially as the experience of others has shown these restraints to be useless, always annoying, and in some cases injurious. I have seen a patient confined to bed because an eye muscle had been advanced. Confinement to the house in such cases is bad enough. My advancement cases walk the streets unbandaged from the moment of operation, and I secure excellent results. Why should I therefore confine them? Up to within a few years nearly all eye operations were considered proper cases for bed treatment. At the present time I am glad to know that the list of such is being freely cut, with the promise of making it eventually very small.

In my own work I use bed treatment to a very limited extent, and never make it compulsory. For the day of operation, especially if chloroform has been used, patients find the bed the most comfortable place, but after the first night they may follow their own inclinations as to its continuance. I presume it is generally conceded that lid-operations, neurotomies, enucleations and muscle sections need not be cases for bed treatment. In this list I put iridectomies and cataract ex-

tractions. For the past three years my cataract patients have not been put to bed at all, and I have yet to see any injury from the enjoyment of this liberty. From the operating chair they walk to their chambers and use the beds or not, as they feel inclined.

Another annoying restraint which is gradually giving way to a more enlightened experience is *the use of the dark room* in the after treatment of eye operations. When an eye has sustained an injury either by accident or at the hands of the surgeon the common habit is to confine the patient to a dark room while undergoing treatment. With the people this is an all-pervading desire, and it is acquiesced in by the majority of physicians. Notwithstanding all of which it is a bad practice. A simple rule, and in my experience a very safe one, is to allow the patient to enjoy any degree of light which is not offensive to the eye. *If light is not annoying it will not be injurious.* By accepting this law of nature for our guidance, the use of a dark room will be found very limited in eye surgery. Before I knew better, I also thought it my duty to do as I saw others do, shut out the light of day, and used candle light for all inspections. I could not find curtains dark enough to exclude all the light that I desired to shut out. In furnishing my hospital some years since, every window in the building, wards, private rooms and passages, were completely covered with the darkest shades I could find; and when in iridectomy and cataract cases the bandages were removed I had additional black curtains, which were hung over the already too dark shades, so that the rooms were black enough to satisfy the wants of any eye surgeon. Now these funeral window dressings have all disappeared and with them the dark shades. Experience has slowly taught me that the theory was wrong and the practice bad. My desire now is to exclude harsh light only, and especially to avoid all sudden transitions. My patients are treated in moderately lighted rooms and are allowed to take all the light that they can bear with comfort, only the eye operated upon being closed. To those who will try the experiment it is surprising to find how much light can be comforta-

bly borne by the majority of eye patients, for their own advantage, and that of the attendants.

I have startled some of my specialist friends who use the candle much too freely, when I took them into an ordinarily lighted room to examine a cataract case five days after an extraction, especially when I drew aside the window shade, so that under the full light of day the examination of the eye could be made more thorougly. After watching these cases for a few days and finding much stronger eyes than they were accustomed to see under the dark room treatment, they have left me with the intention of becoming, as they say, more venturesome in the future.

Another restraint much too freely used is the eye bandage. To tie up an eye for disease or an accident, however trivial to the organ, is a popular device of universal adoption, and one might equally add of universal misapplication. By this I do not mean to infer that the eye bandage is to be discarded from surgical practice, for we often find it an essential factor for successful treatment. I refer to its indiscriminate use and consequent abuse. For pressure effects we need it, and must ever use it. When it is desired simply to exclude light, a better device can be found. In many cases it is applied to keep an eye quiet, which is a physiological impossibility. This delusion is carried out when an attempt is made to dress an eye recently operated upon for cataract or iridectomy, by surrounding it with small discs of lint systematically and beautifully piled up until all the irregularities of the orbital surface are brought to a level. These are then secured in place by a roll of bandage, for what is called equible pressure. Many years since I used to extol an elastic pad of raw cotton for filling these indications. When pressed by a bandage the soft compress would sink down, filling up an excavatory space, and give, as I then thought, an excellent support to the cut organ. I found these theories not sustained, and I abandoned that practice.

Now the only dressing I use after iridectomies and cataract extractions is a piece of isinglass plaster. It is designed simply

to keep the lids closed over the eyeball. I avoid all artificial compresses. I find the lids with their tarsal cartilages a sufficiently thick and heavy compress, a perfectly adapted splint, moulded by nature to support every part of the anterior surface of the eye-ball. When the eye is closed the orbicular palpebral muscle automatically makes just the degree of pressure needed, and retains the lips of the corneal wound in perfect apposition. After operations on the front of the eyeball, a strip of adhesive plaster fills every indication for lid restraint, and it should become the universal eye dressing. It is light, simple, easily applied, comforably worn, and not easily displaced. By the action of the lid muscle it keeps up equable support. It is also transparent, so that any discharges from the eye, or any changes which the lid may take on, can be seen at the daily inspection, and the condition of the eye known without disturbing the dressing. When the object is only to close the eye, the tying up of the head by bandages, however skilfully constructed, is an annoying restraint, which patients will gladly avoid. Those who have submitted to the bandage and compresses in former cataract operations, and to the adhesive isinglass strap in subsequent ones, are loud in their praises of this simple eye dressing.

As to the tying of the hands of patients for fear they may injure the eye recently operated upon, I am glad to say that I have never practiced it. I deem it a needless and very annoying restraint. My cataract operations now exceed 1800, and are being added to at the rate of over 100 per year. To have the cut eye touched by the finger during sleep is not an extremely rare occurrence, and that the patient should be awakened with a twinge of pain is not surprising, but I have never seen any trouble come from it in these cases in which my attention was called to the accident at the time of its occurrence. Why tie up the hands of every patient, as reccommended by some eye surgeons, in order to avoid this imaginary danger? The very restraint, with the loss of sleep and the restlessness which it engenders, may bring about troubles much more serious to the eye than the accidental touching of it with the finger?

Another annoying and injurious restraint is the rigid diet enforced after eye operations. There is an idea that in some mysterious way, not anatomically demonstrated, the movements of the jaws excite corresponding movements in the eye, and therefore induce bad results upon the lips of the wound recently made in the cornea. How this notion, of the jolting of the eye by the masticatory movements of the jaws, ever secured professional recognition is very surprising, but it nevertheless shows its influence in the practice of some who feed their patients on slops for days after cataract extractions. They believe that they are following out a wise course in so doing. Their patients survive and get well. But so do also the patients of those who are not subject to this soft diet. It is said that we all eat too much, and from this standpoint a few meals the less can do no great harm. But there is another law even greater in force, which reads "to secure the ready healing of a wound with the least degree of irritation, disturb the system of the individual as little as possible, and allow the dictates of nature to remain unmolested." Take for instance our cataract cases. They occur usually in old people, in whom habits are strongly establishment. They have been accustomed to daily exercise and regular eating. To suddenly suppress in an old person these natural functions, by putting him on his back in bed, with both eyes bandaged, and on rigid diet, is not the best way to keep him healthy while the corneal wound is healing.

The following case, *excessively untrammelled during the treatment*, occurred in my practice during the month of December, 1888; Mr. M., aged 90, a wealthy old gentleman sent me an urgent appeal to come to his home, 600 miles from Baltimore, and operate upon him for cataract. Against my established custom, I, in his individual case, yielded to his entreaty and went to him. I arrived at his home in South Carolina at 2 o'clock in the day, and found him sitting by an open fire. He could see me dimly with the left eye. With the right eye in which he had been blind with senile cataract for nearly twenty years, he had good light-perception. Within a half hour after my arrival, and with no preparation whatever, I made a smooth

extraction under cocaine. The eye operated upon was dressed by the isinglass strip, and the other eye with limited sight was left oyen. With this eye he could still see to get about, and after the operation he resumed his accustomed seat by the chimney. The only change made in this room was closing the outer slatted blinds to keep out sunlight, and drawing down the shades. It was now his dinner time. After the operation he asked for his usual meal, and with my permission he had it. When 8 p. m. came he went to bed in a contiguous room, undressing himself. In the morning he was up for breakfast. I found him in his usual seat in the parlor alongside of the fireplace, a screen having been placed between him and the blaze to keep the direct rays from shining in his face. He had suffered no inconvenience from the operation, had slept well, had enjoyed his breakfast, and was in every way comfortable. I left him that day at 2 o'clock, having spent 24 hours with him. My instructions to his family physician, in whose care I left him, were to allow him all the latitude which I had established, and only keep his movements restricted to the darkened parlor and contiguous darkened bed-room, to let him have his usual meals, to look at the face and closed eye lids daily, but to leave the dressings undisturbed for six days; also to telegraph me for instructions should any unsatisfactory changes appear. I knew that the carefully applied isinglass plaster would hold on for a week, and therefore the doctor could not indulge a curiosity for a too early examination of the eye, which he might have done had the compress and bandage been used. The programme was carried out. In due time the strap was removed, no troubles had been discovered at the daily visits. The vision of the new eye rapidly strengthened. Such good sight was restored that at the end of four weeks by the use of a two and a half inch glass, the old gentleman himself wrote me a long letter of thanks, as he said to give me an evidence of his handwriting, and of his complete restoration to sight. Better results could not have been obtained had he been made to go through the most orthodox course of restraining and abstaining treatment.

ENTRANCE OF AN EYE LASH INTO THE INFERIOR CANALICULUS.

BY HENRY D. NOYES, M.D., NEW YORK.

A young man came to the N. Y. Eye and Ear Infirmary complaining of much irritation of the left eye, due, as he supposed, to a foreign body—to get rid of it he had made use of an eye-stone. The conjunctiva of the inner half of the globe was vascular and inflamed. Not finding any foreign body on the globe or lids, my assistant, Dr. Agramonte, who first saw the case, discovered a fine hair projecting about 2 mm. from the punctum of the lower lid. It swept against the globe—when I pulled it out, three mm. of it had entered into the canaliculus. The great fineness of the hair—for the patient's lashes were thin and light-colored—favored its penetration.

AN OPERATION FOR SOME EXTREME CASES OF ENTROPIUM OF THE UPPER LID.

BY HENRY D. NOYES, M.D., NEW YORK.

Some cases of entropium, the result of chronic trachoma, present difficulties which even the latest operations of Anagnostakis, Hotz and Green fail satisfactorily to alleviate; as, for example, when the eyelids naturally are short and by disease the tarsus has shrunken in all directions, and become greatly incurvated. Operations may have been done which have furnished a measure of relief, but the pressure of the lid upon the globe continues the corneal irritation.

I have for such cases suggested the introduction of a flap at

the outer angle, a measure which affords material relief, but which causes a certain amount of deformity. In the following case an entirely different proceeding was adopted with advantage.

Martin Murphy, about 47 years of age, a native of Ireland, contracted granular lids while in service in the army during the late war. He was for years under treatment at various periods and in various places. He came to the N. Y. Eye and Ear Infirmary iu 1874 and was under the care of Dr. Allen. He came again to the Infirmary in 1880 and was put under my care. At that time the left eye was the more severely affected. He had had operations upon the lid, and the eyelashes had been entirely removed by amputation. The palpebral slit was both narrow and short, the tarsal edge sharp and closely hugging the cornea; the upper lid bulging and very short. The tarsal conjunctiva was cicatrized and comparatively smooth and the cornea was the seat of extreme vascularity over its entire surface. He had been for some weeks in the Infirmary when I proceeded to operate in the following way:

Putting my finger under the upper lid and stretching it tight, I pushed a blunt-pointed knife from the middle of the edge of the lid flatwise beneath the skin to a distance above the superior margin of the tarsus, then turning the edge upon my finger, I divided all the intervening tissues including the conjunctiva. By this proceeding most of the muscular fibres and all of the tarsus were severed, the skin alone remaining to bridge over the gap. The wound opened to a distance of at least 3 mm. and healing was allowed to go on without interference. Relief began to be experienced immediately, and after 4 weeks of ordinary treatment the patient was discharged with a marked ameloriation of the condition of the cornea. I have seen him again in October, 1887, and found some spots of opacity remaining on the cornea; no vascularity, no irritation, and the patient informs me that he has since the time of the operation (1880) had no further irritation of the eye.

I may remark that this proceeding was suggested by the case in which Mr. Critchett divided the upper lid to relieve the

swelling in ophthalmia neonatorum. I have done the same thing which Mr. Chritchett performed, viz.: division of all the tissues of the lid on its median line in a same case of inflammatory trachoma, and there was no important deformity left at the edge of the tarsus; the proceeding gave considerable relief.

The division of the tarsus subcutaneously is a proceeding absolutely free from the liability of deformity, and in the case narrated it served an extremely valuable purpose.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

FRIDAY, JULY 5, 1889. J. W. HULKE, F.R.S., PRESIDENT IN THE CHAIR.

MONOCULAR (?) SUPPURATIVE IRITIS.

Dr. Rockliffe (Hull) read notes of this case occuring in a girl aged 8. For a week before admission she had suffered from "acute iritis," without lachrymation or photophobia. The family and personal history were exceptionally good. When examined the right eye had no perception of light; there was acute iritis, the iris being studded with nodules, varying in size, their apices yellowish, their bases surrounded by bright red vessels. No hypopyon; cornea clear; eyeball not tender: T + 1. In a week all pain had disappeared, and did not recur during the subsequent history of the case. Three weeks later the nodules had increased considerably in size, and two ciliary staphymolata had appeared. A month after this date the iris was becoming atrophic with T—1; and two months later the staphymolata had entirely gone and the iris was much disorganized; T – 2. The eyeball was excised six months after the first visit, when it was somewhat shrunken. On section there was found to be total posterior synechia, with thickening of iris and ciliary body, degeneration of lens and detachment of retina. Dr. Brailey examined the specimen microscopically and reported: "Rounded collections of cells, clearly new growth, probably inflammatory, on the inner aspect of the iris and ciliary body, and in and behind the base of the iris; to a less degree in the remainder of the iris. The central cells of these collections exhibited signs of inflammation, but an absence of the characteristics of tubercle. One small collection

was present in the choroid. He considered that the case was one of irido-cyclo-choroiditis of a peculiar nature, with many of the features met with in sympathetic inflammation." Dr. Rockliffe referred to cases reported by Hutchinson, Eales, Nettleship, Lang and Benson, and thought the evidence was more in favor of inflammatory new growths than tubercle or syphilitic gummata.—Mr. Hulke understood that the speaker regarded the lesion as an inflammatory neoplasm. He inquired if bacilli had been searched for.—Dr. R. replied that no search had been made for micro-organisms.—Dr. W. J. Collins said that a case he had put on record closely resembled the one under discussion; it occurred in one eye only; the exudation was plastic in character, nodules of pinkish-grey being present. Vision was not greatly damaged and the case did not go on to suppuration. He had ventured to name it "granulation iritis." Mr. Hutchinson, in the 8th volume of the *Moorfield's Hospital Reports*, had recorded five cases occurring in children above the age of infancy; in not one was syphilis excluded, and in more than one it was distinctly proved to exist. He believed that some cases were due to overlooked traumatism. Dr. Mules though it was by no means too late to seek for bacilli if any material were still available.—Dr. Rockliffe said there was no history of injury, and he had no material at hand for a bacteriological examination.

Cavernous Angioma of the Orbit.

Dr. Emrys Jones (Manchester) communicated this case: The patient was a girl, aged 18, who first came under observation in June, 1884, with protrusion of the left eyeball, which had been slowly increasing for nine years. The proptosis then measured an inch an a half. An elastic tumor could be felt eveloping the eyeball. There was no pulsation, no fluctuation, no pain. Downward movement of the eye was lost; other movements diminished; pupil reacted to light, optic nerve pale, V = 14 J. On July 17, ether was administered, the globe enucleated and a cone-shaped tumor contained in a capsule scooped out. The optic nerve was found imbedded

along the inner aspect of the growth which measured 8 centimetres × 7 centimetres × 5 centimetres. Microscopically the growth consisted of an open sponge-like framework of fibrous tissue, with numerous round sinuous, irregular cavities filled with blood. Sections of the growth were shown. The president spoke of a specimen of cavernous angioma in the Moorfields Hospital Museum which was removed from the orbit of a young boy by the late Mr. Critchett. In that case there was no palpable pulsation, but the proptosed eyeball could easily be pushed backwards into its normal position, showing that there was no solid mass behind it.

Sarcoma of Ciliary Body.

Mr. Simeon Snell (Sheffield) related notes of two cases: The first occurred in a woman, aged 62, whose right eye was affected. She was first seen on December 2, 1879. Patient complained of a spark from the fire striking the eye sixteen months before; it was, however, well in a few days; fonr months ago she observed a dark brownish speck in the upper and inner ciliary region; it was then about the size of a pin's head. When seen vision was good, no pain. The elevation in the ciliary region was the size of a small pea and extended close up to the cornea; it was also visible internally and extended for some distance close to the ciliary margin of the iris. The patient disappeared for a time, but returned with the growth enlarged. Enucleation performed August 30, 1880. The tumor was a melanotic sarcoma. 2. A man, aged 74—First seen in April, 1883, when he complained of increasing dimness of sight of his right eye. There was then some opacity of the lens. In February, 1884, when he again presented himself, there was a blackish discoloration, and some bulging of the selerotic (ciliary region) above. Vision was lost. The eyeball was excised on March 24, 1884. The tumor was much larger than the external appearances suggested, about the size of a bean and had the appearance of a pigmented round-celled sarcoma. The patient was reported alive and well, and showed no evidence of recurrent growth, although more

than five years had elapsed since the operation.—*British Med. Jour.*

REPORT OF THE 25TH ANNUAL MEETING OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

HELD AT THE PEQUOT HOUSE, NEW LONDON, CONN., JULY 17 AND 18, 1889.

[CONCLUDED.]

A CASE OF DOUBLE CHOKED DISC DUE TO INTRACRANIAL TUMOR, WITH AUTOPSY.—By Dr. C. S. Bull, New York.

The patient, a young married woman æt. 23 years, was seen June 30, 1888. In February, 1888, she had a miscarriage and was quite ill for a couple of weeks. There was dull headache at the vertex. This became more severe. During April there were occasional attacks of diplopia. During May there was failing vision. When examined V=$^{18}/_{xx}$ in each eye. Accommodation was normal. There was no peripheral limitation of the field of vision either for form or color. There was an irregular negative scotoma for all colors. There was marked exudative neuro-retinitis with hæmorrhages in both eyes. Urine proved normal on examination. The only symptoms of intracranial disease were the lesions of the optic nerve and the headache at the vertex. The diagnosis was intracranial tumor at the base of the brain. Vision rapidly failed and by September 25 there was no perception of light. The mental faculties gradually became impaired. High hemianæsthesia came on. The patient died May 5, 1889. Autopsy showed a tumor involving the corpora quadrigemina and extending to the anterior crura of the cerebellum. The growth appeared to be a glio-sarcoma.

DR. O. F. WADSWORTH, Boston, reported a case of

TORTICOLLIS CURED BY TENOTOMY OF THE EXTERNAL RECTUS.

PARTIAL TENOTOMIES IN CASES OF NEURASTHENIA WITH INSUFFICIENCY OF THE OCULAR MUSCLES.—By Dr. Myles Standish, Boston.

The author reported five cases in which he had performed this operation on account of constant headache, inability to use the eyes and neurasthenic symptoms. In all but one there was marked and prompt relief of the local and general symptoms by the operation. Cases requiring operation are comparatively rare.

NOTES ON SOME VAGARIES OF ACCOMODATION.—By Dr. David Coggin, Salem.

A case was of hypermetropic astigmatism passing into myopia. A case of recurrent spasm of accomodation was also reported. The third case was one of temporary anomaly of sight occurring daily. In the morning the patient could see well, but in the afternoon he could not recognize objects across the street. Double vision also occurred. The disturbance is gradually disappearing.

EFFECT UPON THE ACCOMMODATION OF A PATIENT'S EYE CAUSED BY LOOKING INTO A MIRROR SET OBLIQUELY IN THE ROOM, DURING OPHTHALMOSCOPIC EXAMINATION.—By Dr. E. E. Holt, Portland.

Directing the patient to look with one eye into a mirror set obliquely while the other was examined with the ophthalmoscope an element of ease was found in making the examination and of comfort and steadiness on the part of the patient never experienced before. The eye fatigues quickly in looking at a single object. Looking into the oblique mirror gives the impression of gazing into the distance. A notable change in the pupil will be observed when the patient is directed to look at an object at the distance of the mirror and when he is directed to look at objects reflected from it.

PARALYSIS OF THE SPHINCTER IRIDIS.—By Dr. O. F. Wadsworth, Boston.

A case was reported of paralysis of the sphincter iridis, without affection of the accomodation, lasting several months and following the instillation of homatropine in both eyes.

DISCUSSION.

DR. SAMUEL THEOBALD, Baltimore.—In all such cases it is important to exclude malingering. It would be possible for the patient by the use of a weak solution to keep up the mydriasis without affecting the accomodation.

Dr. SAMUEL D. RISLEY, Philadelphia. — Another practical explanation of such cases is the use of a pipette previously used for a solution of a mydriatic, for a solution which contains no mydriatic.

Dr. JOHN GREEN, St. Louis, presented a

SERIES OF GEOMETRICAL CONSTRUCTIONS ILLUSTRATING CERTAIN CASES OF OBLIQUE PENCILS REFRACTED AT CYLINDRICAL AND SPHERICAL SURFACES.

Dr. JOHN GREEN also read a paper on some of the

STEREOSCOPIC ALTERATIONS EVOKED BY UNEQUAL GLASSES PLACED BEFORE THE TWO EYES.

THE EMPLOYMENT OF OLEATE OF VERATRIA TO FACILITATE THE DETERMINATION OF ERRORS OF REFRACTION.—By Dr. Samuel Theobald, Baltimore.

A mydriatic affords valuable aid in myopia and in hypermetropia, but in astigmatism its use is not so satisfactory. In astigmatism he had found great help from the use of a 10%

oleate of veratria to the temple and forehead once a day for three or four days. This seems to exert a quieting effect upon the ciliary muscle, and especially of the radiating fibres, and lessens the tendency to asymetrical accomodation. The following rule was formulated in regard to the correction of astigmatism. When the astigmatism is according to the rule we need correct only that which is readily made manifest. On the other hand in astigmatism against the rule, we are warranted in correcting fully every part of the defect which can be rendered manifest.

THE INEFFICIENCY OF HYDROBROMATE OF HOMATROPINE IN CONTROLLING THE ACCOMMODATION FOR THE PURPOSE OF FITTING GLASSES.—By Dr. E. E. Holt, Portland.

The experience of the writer was that this drug could not be relied upon. He reported one case in which the latent hypermetropia revealed by 3% solution of hydrobromate of homatropine was just one-half of that revealed by 1% solution of atropia.

DISCUSSION.

Dr. EDWARD JACKSON, Philadelphia.—I have found homatropine entirely satisfactory when used properly. The instillations must be repeated at short intervals, five or ten minutes, and three or four instillations practiced. The effect rapidly passes off and the examination must be made within one or two hours. I have followed the use of homatropine by another mydriatic without alteration in the result.

AMETROPIA AS DETERMINED UNDER COMPLETE MYDRIASIS.—By Dr. Edward Jackson, Phila.

He had examined 4000 eyes under complete paralysis of the accommodation and presented the following table of his results. These were compared with results obtained by another observer without mydriasis.

		With Mydriasis.	Without Mydriasis.
Compound hyperopic astigmatism—		40%	9½—
Compound myopic	"	9	11
Simple hyperopic	"	6	16½
Simple myopic	"	2	24
Mixed astigmatism—		6½	2
Hyperopia—		31	10
Myopia—		4	9½
Emmetropia—		1½	17½

Dr. Jackson also presented a paper on

Accuracy in the Prescription of Prisms.

Dr. W. S. Dennett, New York, read a paper in which he suggested

A New Unit of Angular Measurement for Prismatic Glasses.

Dr. George C. Harlan; Philadelphia., exhibited

Periscopic Cylindrical and Sphero-Cylindrical Lenses.

A Case of Amblyopia Due to Chloral Hydrate.—By Dr. W. F. Mittendorf, New York.

The object was to put on record a case of toxic amblyopia due to chloral hydrate. The patient had for six months been in the habit of taking 40–60 gr. of the drug at night to induce sleep. Suspension of the drug relieved the amblyopia.

Executive Session.

Officers for ensuing year.
President, Dr. Hasket Derby, Boston.
Vice-President, Dr. George C. Harlan, Philadelphia.
Secretary and Treasurer, Dr. Samuel B. St. John, Hartford.
Corresponding Secretary, Dr. J. S. Prout, Brooklyn.

Delegate to the Ex. Com. of the Congress of American Physicians and Surgeons, Dr. John Green, St. Louis; *Alternate,* Dr. D. B. St. John Roosa, New York.

The following were elected to membership:

Dr. Carl Koller, New York; Dr. R. A. Reeve, Toronto, Canada; Dr. David Harrower, Jr., Worcester, Mass., and Dr. Geo. E. de Schweinitz, Philadelphia.

The society then adjourned to meet at the Hotel Katerskill, the third Wednesday of July, 1890.

(Wm. Morrison, Stenographer.)

YORKSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Presidential Address of Some Points of Progress in Ophthalmic Surgery.

BY SIMEON SNELL, M.R.C.S., PRESIDENT OF THE BRANCH.

Delivered at the Annual Meeting, at Sheffield.

After a reference to matters affecting the Branch and its work, the author proceeded: No one can, I think, on taking a survey of medicine or surgery of to-day, doubt how little applicable to the present time is Lord Bacon's sneer, when he said "that these (medical) sciences stand at a stay, and have done for many ages." The time we live in is essentially one of progress, and not less so this is true of medicine and surgery than it is of science. Look where we will, and on every hand and in every department is evidence of activity. True it is that much that is called progress may, in the course of time, be proved to have been spurious, but much must remain as permanent advances.

The increase in our knowledge of nervous diseases and the elucidation of many problems connected therewith in clinical, pathological, as well as histological respects, is at once evi-

dent as one of the many paths along which medicine has and is traveling on the road of progress. For certainly one of the brighest pages in medicine and surgery of this or any time is the one recording the successful efforts at the localization of nervous function, and the consequent recognition of the seat of disease and the surgical means which have satisfactorily, in many cases, been adopted for its eradication.

Again, in the domain of surgery may be mentioned the widened field opened out by the improved means of diagnosis and treatment of abdominal disorders. Other directions in which the progress of medicine and surgery is evident will at once be apparent.

In speaking, however, of progress, I am not sure that sufficient stress is always laid upon the greatly improved means at our disposal for investigating disease, and the necessity which in consequence, among other causes, has arisen for the more exact and complete recording of cases. These are both, I take it, great advances of themselves. There is a leaning toward exactness, but it must be confessed in truth that in too many respects the goal is still remote.

It is not long since that the cavities of the body were more or less sealed and impenetrable as far as the medical eye was concerned. The groping in the dark has ceased, and now their recesses are illumined, and an insight is held to be necessary, and for this the simple knowledge of how to use a mirror is largely responsible. Not only is this insight true of the ophthalmoscope and the interior of the eye, but who for instance would ever now syringe an ear without examination with mirror and speculum, or would give an opinion on a nasal case without the use of similar instruments, or a laryngeal one without the laryngoscope. The same in other ways will at once suggest themselves. In every direction facilities have increased for the greater use of the eyes in diagnosis. Not that the value of the sense of touch is lessened, but that sight is enabled to be taken more advantage of.

Now, in this general progress to which allusion has been made, as well as in the acquirement and use of better and

more accurate means for investigating disease, and the consequent more exact and complete recording of cases, the department of surgnry in which I am specially interested has borne its part and reaped corresponding advantages. Many of the ways in which progress could at once be indicated have on many occasions been demonstrated, and are some of them now so apparent as hardly to need further remark. My intention to-day is rather to leave this well-trodden track, and to briefly refer to some points in comparatively recent work—of interest, I trust, outside the confines of ophthalmic surgery.

Let me take an instance illustrating the more exact investigation of a case as practiced now than was formerly done. The pupil shall serve as the text. At one time, and at not such a remote period, it was held to be sufficient to note with respect to it that it acted to light or was sluggish, was contracted or dilated. Now we know that much labor has been bestowed on the investigation of the pupillary movements and their significance. Its indications frequently in a treatise now find separate notice, and often at some length. The conditions of its reflexes as an aid to diagnosis in locomotor ataxy, general paralysis of the insane, and other nervous disorders, are well known. An examination nowadays of the pupil, not pretending to be exhaustive, would include the following among other points: Does it act to light? If so, does it do so to light thrown on all parts of the retina? For it is known that, in some cases of hemianopsia, light projected on the portion of nervous expansion in which function is in abeyance or abolished does not occasion a pupillary response. Exclusion of the fellow-eye has been taken for granted.

Further, does the pupil act to accommodation? If so, and it does not respond to light, the well-known Argyll-Robertson phenomenon is present, so indicative of spinal disease. Again, does it act to convergence? There are other reflexes, such as from surface-irritations, which I need not refer to. Is the pupil dilated? If so, to what extent? And the measurement may be taken with a pupillometer, indicating, also, whether the size was recorded in the shade or light. What is the effect of

atropine? Does it further dilate the pupil or not? Does eserine contract it? If so, does it do so fully or not? If the pupil is contracted, note the effects again of atropine or eserine.

These latter points are of importance in deciding whether the mydriasis or myosis is dependent on irritative or paralytic lesion. In what has been said no account is taken of the effect of disease in the iris, and the pupil is regarded only as an index of disease elsewhere.

Passing next to the consideration of the ways in which progress has been made in the methods and means of investigating disease, I will take the perimeter as my example. Under the ruder and rougher methods, the lessons to be taught by an examination of the visual field could not be understood. With the means which have been now at our disposal for some time, thanks in our country to the labors of Mr. McHardy and Mr. Priestley Smith, the field of vision is able to be mapped out with something approaching exactitude. Most valuable information has been gained, and this not only as aiding to the diagnosis and prognosis in some cases, but also, in some cerebral lesions, to their localization. Among other diseases, its use may be mentioned both for diagnosis and prognosis in the insidious non-inflammatory form of glaucoma. The perimeter, moreover, has not merely taught lessons as to the perception of light, but as to colors as well.

A case illustrating particularly the value of perimetric taking of the field of vision came under my notice about this time last year. A young married woman had been severely injured in the Doncaster railway accident of the preceding September (1887), and she was suing the railway company for damages. Her injuries had been very severe. Amputation at the right thigh had immediately been required, and the left leg was severely fractured. She lost a considerable amount of blood, had been badly knocked about the head and neck, and had remained more or less insensible for three days. My friends, Messrs. Knight and Garrard, who had been in attendance, referred the case to me to report on her vision for the trial. I found that sight was perfect, and that the weakening of ac-

commodation from which she suffered was completely relieved by spectacles, and with these she was enabled to read with comfort. There was no tangible change in the optic nerve discoverable by the ophthalmoscope. I was aware, however, that Mr. Garrard for some time believed that the visual field was somewhat contracted. A casual examination was sufficient to enable me to agree with the accuracy of Mr. Garrard's surmise, and a careful mapping out of the fields of vision demonstrated a decided narrowing in each, but more especially in the right. Moreover, the field for red was also correspondingly contracted in each eye.

Here was a fact that could not be got over. The charts colored, as now shown [the charts colored were shown at the meeting; they are now of course plain,] placed before the jury, presented evidence more telling and tangible than verbal cnuld be. Mr. Garrard had known for some time that the field had been contracted, but there was no evidence whether the impairment indicated by the perimetric charts was progressive or stationary. The optic nerve yielded only negative evidence. The cause of this peripheral retinal impairment and other questions connected therewith I must pass by, and I will merely add that the woman's severe injuries entitled her to handsome compensation. The company offered £600; she wanted £800, and the jury awarded her £1150.

The revolution which has been wrought in general surgery by the introduction and adoption of antiseptics has not been without effect on ophthalmic surgery. Without desiring at all to question the better results, which by a tolerably general consensus of opinion have been obtained under a strict antiseptic *regime* in general surgery, I am free to confess that it has seemed to me that in attributing so much to the kind of antiseptic used and the plan adopted, too little credit has been assigned to the increased care and cleanliness practiced in the treatment of wounds of all kinds. The principle involved in drainage of wounds, for instance, must exert its influence for good, quite independently of any antiseptic system.

It may be admitted that the greatest care had for long been

taken as to the performance and after-treatment of ophthalmic operations, but at the same time it is quite noticeable that increased vigilance is exercised now as to the cleanliness of the instruments, and to details in preparations for operations. Generally speaking the results have been better. I believe I was one of the first in this country to record the adoption of antiseptic precautions in cataract operations. That was before this Branch in a paper[1] in 1878. Carbolic acid was then the antiseptic used, but even in weak solutions it was condemned as irritating, and the convalescence of cases after operation was stated to be prolonged.

Perchloride of mercury, after a trial of many others, is the agent now mostly employed, and it is used in weak solutions, 1 in 5,000, or less. Before proceeding to operate for a case of cataract, for instance, the patient's face should have been well washed with soap and water, especially about the eyes and eyebrows. Then immediately before operating the eyes outside are bathed with the perchloride solution, and the lids are separated and the solution allowed to run freely over the globe and under the eyelids. Most antiseptics act injuriously on the instruments, and, therefore, their immersion should only be momentary. For my part I believe it is sufficient to see that your knife is *spotless* and then to place it and your other instruments in absolute alcohol before using.

Some operators will assert that antiseptics completely banish suppuration from their cataract cases. I am disposed to agree that, with the precautions I have pointed out, with cleanliness in the nursing afterward, and with good sanitary surrounding, suppuration should be only of the rarest occurrence.

In a less methodical manner there are many additional ways in which antiseptic agents are of use in ophthalmic surgery, and upon which I cannot now touch. Iodoform is a most valable remedy, whether it be in combating the gonorrhœal gonococcus in the conjunctiva, or checking sloughing corneal wounds, whether after operation or otherwise.

[1]Brit. Med. Jour., 1880, vol. i, p. 241.

Any reference to the changes in recent ophthalmic practice would be singularly incomplete without a mention of cocaine. The introduction of this remarkable agent, only about four years and a half ago, immediately wrought a complete revolution, and the test of time has well substantiated its value and efficacy. Valuable, however, as the drug has proved to be in other directions, it is in the field to which it was originally introduced that its properties are most esteemed and find their most constant use. In my own practice, hospital and private, general anæsthetics have almost been put on the shelf, and are only resorted to as a rule in cases requiring enucleation of the eyeball, or in those which are for some reason exceptional. Speaking generally, all conjunctival and corneal operations are done under its influence, as well as strabismus, cataract operations, puncturing the sclerotic, and cases necessitating the use of the electro-magnet. Iridectomies and operations on the iris must also be added to this list. Ether is still necessary, as before mentioned, for removal of the eyeball. But, here also, I must have performed more than a dozen enucleations with the aid of only cocaine. Generally they have been cases in which, for some reason or other, the use of an anæsthetic was wished to be avoided. After instilling a 3 per cent solution three or four times during the quarter of an hour or ten minutes preceding the operation, it will be found that the conjunctiva may be divided without pain; then, after checking the bleeding, the cocaine solution is allowed to run freely over the insertions of the tendons, and by avoiding undue haste, it will often be found that the recti may be divided and the operation performed almost painlessly down to the division of the ciliary nerves surrounding the optic nerve. The latter step certainly causes pain, though once or twice a patient has stated that he has suffered hardly anything. Invariably however, I think, they have expressed their pleasure at the operation having been performed without a general anæsthetic.

[TO BE CONTINUED].